

**FLOOD CONTROL ADVISORY BOARD  
MINUTES  
September 28, 2005**

Kent Cooper, Chairman called the meeting of the Flood Control Advisory Board (FCAB) to order at 2:00p.m. on Wednesday, September 28, 2005.

**Board Members Present:** Kent Cooper, Chairman; Scott Ward, Vice-Chairman; Melvin Martin; Ray Acuna, Ex Officio; DeWayne Justice, Secretary; Paul Cherrington, Ex Officio.

**Board Members Absent:** Hemant Patel

**Staff Members Present:** Julie Lemmon, General Counsel; Kevin Costello, General Counsel Linda Reinbold, Administrative Coordinator, Don Rerick P.E., Project Management Branch Manager ; Gregory L. Jones P.E., Area Planning Manager; Theresa Pinto, Planning & Project Management Division; Mark Mayer, Inspection and Enforcement Branch Manager; Steven Waters, Flood Warning Branch Manager; Mike Alexander, Chief Financial Officer; Kathy Caudell, Financial Accountant and Anna Medina, Clerk of the Flood Control Advisory Board.

**Guests Present:** Ed Fritz, MCDOT; Tony Bokich, Aztec Engineering; Alex Meñez, Kimley – Horn; Michael Daggett, Kultra Properties; Brian Fry, Dibble and Associates; Frank Brown, David Evans and Associates.

1) INTRODUCTION OF THE CLERK OF THE BOARD

*Phillips:* Mr. Chairman, members of the Board, let me first introduce the new Clerk of the Board, Anna Medina who comes to us from the 10th Floor at the County – out of the County Manager’s Office, replacing B.J. who took another job.

*Medina:* Thank you.

*Phillips:* And Mr. Chairman, probably after the minutes, we have an addendum that you probably all received and that’s the election of officers and committees for this coming year.

2) APPROVAL OF THE MINUTES OF THE MEETING OF AUGUST 24, 2005

**ACTION:** It was moved by Mr. Ward and seconded by Mr. Justice to approve the minutes as submitted. The motion carried unanimously.

3) ADDENDUM: ELECTION OF NEW FCAB OFFICERS

The Flood Control Advisory Board bylaws state that officers shall be elected by the members to serve a one-year term from November to October. Based on general rotation, the slate of officers for the period November 2005 to October 2006 would be:

Chairman- Scott Ward

Vice Chariman – DeWayne Justice

Secretary – Melvin Martin

ACTION: Tabled until October

4) APPOINTMENTS TO THE FCAB STANDING COMMITTEES FOR 2005

In accordance with Article VI, Section 1 of the Flood Control Advisory Board bylaws, the Standing Committees shall be Legislative, Program and Budget, Policy and Public Information. Recommendations are as follows:

Legislative Committee

Paul Cherrington  
Kent Cooper

Program & Budget Committee

Melvin Martin  
Hemant Patel

Policy Committee

Ray Acuna  
Hemant Patel

Public Information Committee

DeWayne Justice  
Scott Ward

ACTION: Tabled until October

5) RECOGNITION OF THE EMPLOYEE OF THE QUARTER

*Phillips:* Mr. Chairman, Mike Alexander would like to introduce the employee of the quarter for the District.

*Alexander:* Mr. Chairman, members of the Board, it is my privilege to introduce Kathy Caudell who has been nominated and selected as the employee of the quarter. Kathy came to us a little more than a year ago and quite frankly she was selected for the excellent background and skill she has in cost accounting. She is a member of the finance staff and although cost accounting is a group effort, Kathy has been the lead for the last year. As all of you know, the Government Account Standard Board required us to document and to reconcile the county records the last 25 years of infrastructure expenditures, an awesome task, and Kathy came in, went right to work, she did an excellent job. The state Auditor's General Office has been out with us for the last – well since May. Kathy has been our lead on that. They are just now ending up the audit. I think there's going to be, if any, very small audit finds and in conclusion let me say that her dedication and her skills have been at the very least more than adequate and I think it's a well deserved distinction.

*Cooper:* Well Kathy, congratulations.

6) SCATTER WASH BASIN IMPROVEMENTS PROJECT; IGA FCD2004A016

Don Rerick P.E., Project Management Branch Manager, It is recommended that the Flood Control Advisory Board endorse and recommend that the Board of Directors approve IGA FCD2004A016, to define the Flood Control District's role and responsibilities for cost sharing the Scatter Wash Basin Improvements Project.

*Rerick:* Good afternoon, Mr. Chairman and members of the Board. This afternoon's agenda item number three is to present to you the Intergovernmental Agreement FCD2004A016 for the Scatter Wash Basin Improvement Project. The action requested of the Board this afternoon is that you endorse and recommend that the Board of Directors approve this IGA 2004A016 that will define the Flood Control District's role and responsibilities and the cost sharing for the Scatter Wash Basin Improvement Project. You may recall in February, I brought before you the resolution for the project. This background information is consistent with what was presented to you in February and is as follows.

ADOT submitted this project to the District through our prioritization process. They recognized an opportunity to take a drainage project that ADOT needed for their I-17 improvements and expand it into a regional flood control project that will benefit the flood areas along the Scatter Wash. ADOT will be the lead agency for all of the tasks. They have completed the design concept report and presently have begun the design efforts on the I-17 widening, which will include the design effort for the Scatter Wash drainage improvements. The project estimate remains at \$3.6 million and the Board of Directors approved in April the resolution for the project.

The elements consist of an offline detention basin, improvements to the wash, and improvements to the crossing of I-17 at Scatter Wash. This graphic presents to you an overview of the project. We have I-17, we have Deer Valley Road, Scatter Wash down through this confluence with Skunk Creek. Presently there's approximately 2,200 CFS flowing down Scatter Wash and coming from the north, flowing south along the east side of I-17. When it arrives at the I-17 location, there is not enough capacity for the wash – approximately 900 CFS breaks out to the south, crosses through the Deer Valley TI creating a flooding problem in this area. The project elements consist of the detention basin and improvements to Scatter Wash as noted on the slide. The project benefits, as I mentioned, will be a regional flood control benefit to the area, providing 100 year protection to the Scatter Wash area immediately up and downstream of I-17 and preclude those breakouts to the south. The authorizations are that ADOT will continue to be the lead agency and front 44% of the project costs. The District and the City will participate in the review and approvals of both the design and construction. The City and the District will each share 28% of the costs, both of our cost shares being capped at \$1,008,000, and ADOT and the City of Phoenix will then operate and maintain the completed project. In conclusion, the staff's recommendation is that the Advisory Board endorse and recommend that the Board of Directors approve IGA 2004A016 to define the District's role and responsibilities in the Scatter Wash Improvement Project. Are there any questions?

*Cooper:* I notice that you included a cap on the maximum amount of contributions from the District.

*Rerick:* Yes sir.

*Cooper:* This is something that we're interested in doing for the Town of Wickenburg.

*Phillips:* Mr. Chairman. Who negotiated the IGA?

*Rerick:* Mr. Chairman, Mr. Ward, as you define negotiated, the District staff in conjunction with City staff and ADOT staff reviewed, there was extensive review by the attorneys of all the departments and it resulted in the documents you see before you today.

*Cooper:* I really like those IGAs that are split amongst another agency in the City of Phoenix. Ray, you're okay with this?

*Acuna:* We've worked together a couple of decades now and I have complete confidence in Mr. Rerick. He finishes what he starts and he is a person of his word.

**ACTION:** It was moved by Mr. Justice and Second by Mr. Ward to approve the item a submitted. The motion carried unanimously.

7) EL RIO WATERCOURSE MASTER PLAN BUCK FIRE REVEGETATION PROJECT; RESOLUTION FCD2005R016

Theresa Pinto, Planning & Project Management Division. It is recommended that the Flood Control Advisory Board endorse and recommend that the Board of Directors adopt Resolution FCD2005R016, for developing, negotiating, and entering into Intergovernmental Agreements with the Arizona Game and Fish Department and with other municipalities, agencies, and others, as appropriate, to identify the Flood Control District's role and responsibilities for cost sharing the implementation of the El Rio Watercourse master Plan Buck Fire Revegetation Project, subject to the future ratification and approval of the Board of Directors.

*Pinto:* This is a case where the Buck fire burned down or burned out a significant area of Salt Cedar and we've recognized that if we can jump in and do some re-vegetation on a broader scale than the pilot study that has been presented to you in the past, that here's a real opportunity to do it on a bigger scale.. We'll still have to deal with the habitat replacement issues in this, but the existing habitat is no longer there, so it's an opportunity if we can get in, get in quick, take advantage of the burned out area, we can reduce costs and see if re-vegetation with a suitable alternative to Salt Cedar is feasible. That's really what this presentation, this resolution is all about, it is an opportunity.

*Cooper:* Very good.

*Pinto:* Good afternoon Chairman and members of the Board. I'm here to present the Resolution for the Buck Fire Re-vegetation Project and the action that we're

requesting is that the Flood Control Advisory Board endorse and recommend that the Board of Directors approve the subject Resolution for the Buck Fire Re-vegetation Project. The Buck Fire Re-vegetation Project is similar to the El Rio Research and Development Project that I presented to the Flood Control Advisory Board in April of this year, in that we want to remove Salt Cedar to improve the conveyance capacity of the Gila River and replace it with native species that are more hydraulically efficient. And the El Rio Water Course Master Plan, which will be completed in December of this year, it is recommended that vegetation management as one of the solutions to alleviate flooding issues in the Gila River.

On June 29th of this year, there was a fire that started south of Buckeye, called the Buck Fire and it burned about 570 acres of primarily Salt Cedar-dominated land in the Gila River and we looked at this as a great opportunity to go out there and re-vegetate the property, as well as implement one of the solutions identified in the El Rio Water Course Master Plan. The land is operated or managed by the Arizona Game and Fish Department.

The project is going to be approximately 50 acres and it's going to be a dry land restoration site, which means we're not putting in an irrigation system. The approximate cost is estimated to be \$250,000 and that's a conservative cost estimate. Maintenance requirements should be minimal because we'll be maintaining this area as a natural site and we're not putting in an irrigation system, so that cuts down on the maintenance obligation right there.

We're re-vegetating using a combination of tall pots, as well as hydro-seeding and tall pots are an experimental way to grow container plants or nursery plants, and in a tall container, and it allows the plants to develop a deep root system. Compared to container plants, if you use typical container plants from the nursery, four gallon, five gallon or so on, you basically have to water them initially to get them started and so that adds to the expense of re-vegetation projects, when you have to use irrigation. So, tall pots are a great alternative when you don't have a water source and when you don't have money for the initial irrigation system, or maintenance the irrigation system. We can apply these results to other District projects, whether they're – the Gila River or any water course throughout the County where we have to take out invasive vegetation and replace it with desirable and more hydraulically efficient vegetation, and it prevents mitigation options for future 404 permits.

The project partners include the Flood Control District and the Arizona Game and Fish Department. The Flood Control District is going to design, construct and then monitor the re-vegetation's success. The Arizona Game and Fish Department will provide the right-of-way.

It's a great opportunity to partner with the Arizona Game and Fish Department with respect to flood control issues. Also, through our construction and our project design aspect of the Flood Control District projects, the Arizona Game and Fish Department reviews the 404 permit applications, so we like to maintain a good relationship with the Arizona Game and Fish Department. Now the staff

recommendation is that the Flood Control Advisory Board endorse and recommend that the Board of Directors approve the subject Resolution for the Buck Fire Re-vegetation Project. Any questions?

*Cooper:* Questions?

*Justice:* Are they going to let you go in there with a D9?

*Pinto:* We're going to use whatever equipment we need to and I've heard that D9 works really well. Yes, what we'll do is we'll remove the Salt Cedar root ball, which you have to go at least three feet, so yes, we'll do whatever we need to get root ball out

*Justice:* You can't do the whole 570 acres though. Anything we can do to get rid of Salt Cedar root ball?

*Pinto:* Yes, I mean we don't have an unlimited budget, but even so we want to see what works first, I mean.

*Phillips:* Chairman, members of the Board, if you want to triple the money, we'll triple *the area*.

*Justice:* How deep are these container plants?

*Pinto:* They're 30 inches tall, the pots are 30 inches tall and if you ever want to go look at our nursery or some plants that we planted years ago without supplemental irrigation, I'd be happy to show you. But they're six inches diameter PVC pipe and 30 inches tall.

*Justice:* I wonder if – it looked like it was just PVC you fill with mulch and plant your little trees in it?

*Pinto:* Yes.

*Justice:* And then you water them until the root reaches the full length of the tube?

*Pinto:* Yes, basically you can start to seed in April or May and then you'll have plants ready to plant by October, so it's amazing. These plants started growing and the roots got down to the bottom of the pipe within about a month and a half.

*Martin:* The \$250,000 includes the clearing?

*Pinto:* Yes.

**ACTION:** It was moved by Mr. Justice and Second by Mr. Ward to approve the item a submitted. The motion carried unanimously.

#### 8) LOOP 303 DRAINAGE IMPROVEMEMNTS RESOULTUION FCD2005017

Gregory L. Jones P.E., Area Planning Manager, recommended that the Flood Control Advisory Board endorse and recommend that the Board of Directors adopt Resolution FCD 2005R017, for developing and negotiating IGA(s) and Agreements to identify the Flood Control District's role

and responsibilities for the Loop 303 Drainage Improvements; to authorize the acquisition of project rights-of-way; and for the procurement of project engineering design services, subject to the ratification and approval of the Board of Directors

*Jones:* The Loop 303 ADMP for the White Tanks area is bounded on the west by the White Tank Mountains, on the north by McMicken Dam, on the east by the Agua Fria River, and then to the south by the Gila River. The project area which is basically right down the center of this, it's the major project feature. The drainage pattern in this area is basically from the northwest to the southeast direction until you get to about I-10.

We recently proposed the Loop 303/White Tanks ADMP Resolution to the Board of Directors and it was adopted. Within this ADMP you can see we have multiple project features, however the principal project feature is the Loop 303. It intercepts roughly about a third of the drainage within the ADMP, conveys it along the Loop 303 corridor and down into the Gila River. We worked very integrally with MCDOT in the design as part of this. Up north we have Surprise and it goes through a strip annexation of Glendale, and then down through Goodyear and ultimately we have pieces of unincorporated Maricopa County between the jurisdictions.

This cost share was looked at three different times by three independent bodies. What the cost share was based on is a 21/79 percent, and that basis was derived from ADOT's standard design for a fifty year drainage system. So the 21% is for the cost to upgrade it to 100 year system, so our cost share is actually far less than our normal 50/50 cost share

The Resolution provisions include our standard requirements where we're asking for CIP funding, the ability to negotiate IGAs and also the ability to seek professional services to the new design work. So at this time, the District staff is requesting that the Flood Control Advisory Board recommend and endorse this Resolution to the Board of Directors. Are there any questions?

**ACTION:** It was moved by Mr. Martin and Second by Mr. Ward to approve the item a submitted. The motion carried unanimously.

## 9) STAFF ACTIVITIES DURING MONSOON 2005

**Discussion:**

The Chief Engineer and General Manager will review the District's activities during the last month.

*Waters:* I am going to talk a little bit today about what the District does in response to floods and what we did during the winter rainfalls last year and the summer rains this year.

As a District, we don't have really a legislative mandate that says we will respond to floods. But we do respond to floods in some ways, and the first thing

that we respond to is to make sure that our own infrastructure is operating correctly. So, we send teams out to our dams and our channels and we have automated instrumentation on those to let us know how they're performing. We also provide information and support to County emergency management, so we're a technical advisor to those folks. We also advise other County departments, like the Sheriff's Office, MCDOT and Environmental Services so that they can do flood response.

There's some things we don't do. We don't directly warn the public. There are some cases and I'll touch on those later, where we do directly warn the public. We don't close roads or bridges. We don't initiate evacuations and we don't deliver or place sandbags, even though when it floods, people call us and say we need sandbags. . But we can point them in the right direction.

Our Flood Response Program has a number of elements and the first one is planning. We need to plan how we will respond to a particular flood, and that means doing research and collecting data and making decisions from that. We need to detect that a flood is occurring, and we do that with a sophisticated set of electronic instruments, which I'll talk about later. We need to communicate to people that a flood is taking place and once that communications takes place, people have to do some type of action. And then wrapping this all up with the frequency or infrequency of floods that we have in Maricopa County, that plan has to be maintained and exercised.

Our main document for flood emergency response is the Flood Emergency Response Manual, and that's a document that I keep and update annually. It contains all the instructions that all our different divisions do when we respond to floods. We also have developed a number of flood response plans for areas around the County. These are fairly detailed sets of instructions that contain data on hydrology and hydraulics and then how agencies respond when there's flooding going on in their areas. They're operated either by a local jurisdiction or in some cases by us and they rely heavily on support from our meteorologists, our hydrologists and by the National Weather Service.

Flood Detection. There's interactivity between meteorology and hydrology when you're trying to predict a flood. So, we operate a program that we call a Meteorological Services Program where we have a meteorologist on staff and I act as the backup meteorologist and that person makes forecasts for different zones around the County – on a smaller scale than what the National Weather Service provides for us. We put out everyday a daily outlook and that keys on heavy rainfall as it's main prediction. We'll also issue some messages, this happens to be a message to a flashflood watch for particular zones, for particular times. And here's a list of who those meteorological provided to different county departments, cities, police and fire like Rural Metro, Phoenix Fire Alarm, recreation areas, we put out forecasts for the lakes, we supply data to the federal and state agencies, so we have about 120-some odd clients who received our meteorological products right now.

*Phillips:*

Steve, if I can comment. Mr. Chairman, members of the Board, if you want to be put on the mailing list, you can get a certain amount of data everyday, sometimes twice a day during the summers, if there's a storm event, even more.



But it's kind of a little bit less of a formal tool, it's an assessment, kind of an internal assessment, but it's very good and if you all are interested in getting a copy, we can put you on the mailing list.

*Waters:*

We have now over 300 stations, automated stations, throughout the County and the surrounding counties that measure rainfall, stream flow, and the weather. That information flows through a system of electronic repeaters, it goes to a backup station at our Department of Emergency Management so that if something happened to this building, we would at least have a base that we can operate from. The data goes to the National Weather Service in Phoenix and it's used in all their forecast products and then it's also received here in our Alert Room where we can access it through the internet or directly through a PC dial-in or network connection.

Here's a graphic of all of the watersheds that feed into Maricopa County and our different station locations. You'll notice the upper Gila and the Salt and Verde are very well gauged by the U.S.G.S. and Salt River Project, so we provide, or we work with them to share data so that we don't have to do our instrumentation up in the major rivers.

The actual flood warnings themselves are provided to our internal teams, to those other county departments, to other cities, mostly through the flood response program and again, public warnings. And we do that by phone and fax and email and yelling across the hall and whatever way we can do it. During the times that it's not flooding, we still have this very nice system of environmental monitoring stations that are collecting data 24 hours a day, and there's a whole host of other uses for that data. I'm not going to read them off, but our website – in a month that it doesn't rain much, we get about 5,000 visits, and in a rainy month we'll get 10 or even more thousand.

Those exercises that I mentioned, we do one per year in association with our emergency management department. That's a requirement for our CRS program that we have to do an exercise if we're getting flood warning credits. So when other county departments participate in those exercises, as well as sometimes even outside agencies, and we try to move and exercise around different parts of the county and exercise the different flood response plans, so we never do two of them in the same spot in a year.

Our Operations and Maintenance Division has the crews that we send out when we have a heavy rain. They come in and load their truck with a box that's already pre-packed with things like flares and binoculars and rain gear and stuff like that, and we send them out to look at places where we don't have gauges.

Okay. Any questions on how the District's response to floods before I go on to the winter rains of this year?

First of all, there is a report on our website that I did for the storm of February 2005 that covers a lot of what I'm going to show you right now. But basically in the winter of 2004 starting about October, we got a blocking pattern up under the Gulf of Alaska that pretty much stayed there for the entire winter and then forced the jet stream to dip down south and then come across the southern tier of

the United States, and when it does that, it tends to form storms that dig deep down into the tropics to get their moisture.

Starting in October and November and December of 2004, everything on these maps that you see in this nice bright blue are areas that received more than 150% of their annual rainfall. So you can see western Arizona got lots of rain those first three months, and then we can go into January and February and see that the statewide we had better than 150% of our annual rain. The National Data Center also shows Arizona as being well above – much above normal for rainfall for that December through February period, not quite record wetness as in some of these other areas, but very wet nonetheless.

How much rain we get? This is a map of rainfall coverage in a mean annual year. So, we'll take average of all the rain gauges and go back and plot how much we got each year and then we can see that we get about four or five inches in the southwest county and about seven inches in the Valley and about ten inches in the northern part of the county. Well then October to February of our winter, the maps are virtually identical. Even more so, you can see more rain in the southwest county. So this tells us that we got our annual rain in the winter season, and that's pretty rare. It doesn't happen very often. Here's some examples. Just in February of 2005, we had 12.17 inches. In north Scottsdale, we had over five. In Queen Creek we had three and a half. And that's just in the month of February. So keep an eye on these two. We're going to go to this north Scottsdale gauge again and see that in the recent what we would call fairly wet winters, 2005 was the highest, even higher than 1993, and the same thing for Queen Creek. Three and a half inches in 2005 is the highest that its had in recent history. Okay.

So, did we have any floods this winter? Well yes we did. February 13th a good amount of rain. We had a pretty good size runoff event on the Hassayampa River. It chewed a good amount of bank on one side and dropped some homes into there.

As far as significant discharges, we didn't really have terribly significant discharges, other than the Hassayampa River that we just saw was about 16,000 cubic feet per second, which is about a ten-year runoff event. On the Salt River at Priest Drive at 28,000 cfs, Gila at 38,000 cfs, those are both well below 100 year event frequencies. We had some impoundments at our dams, but nothing really bad. We only had three of them got over 10 But everything that we owned, as far as structures, worked just as they had been designed.

Damages for the winter, there were four houses and an unknown number of vehicles in Wickenburg that were damaged. Right now the Alma School Bridge, the approaches are being repaired. Our emergency management agency estimated that \$6.5 million in damage was done to property and infrastructure and \$3.1 of that was estimated to federal highways and we didn't lose any life.

So we showed before that we had a relatively light rainfall amount. Why don't we have much flooding and why don't we have much damage here in Central

Maricopa County? One of those, I think, is that we had those lingering affects of those drought years. We had rain falling on basically soil that hadn't gotten its annual rain for several years, so the soil picked up a lot of that moisture that would in an average year be converted to runoff. It's possible that the rainfall wasn't as extreme as we think. We only did use a number of index gauges and that doesn't cover the entire state to any density, so it may not have been as extreme. My favorite is that of course we're doing a great job of flood plain management and the flood control, all the work that we've been doing for the last 40 years is paying off in terms of keeping the water wherever we want it, putting it in basins and letting it out slowly so that it doesn't do damage. More than likely it's a combination of all of those.

In June of 2005, of course, the Cave Creek Fire, our complex fire, burned on the north side of Maricopa County, up in the Cave Creek and New River watersheds and as we all know, when a fire burns a watershed, its runoff potential is greatly increased. And sometimes on the order of 30 or 50 percent more runoff from the given rainstorms. So we knew that those were areas that we had to watch pretty closely. A good portion of this upper New River watershed was burned, but not to a high severity, more than to a low and medium. But 50% of it was burned and there's a response time up here of about four hours from the top down to the town for a flood to get there. The 100 year discharge from the stream gauge records here at the USGS gauge is 35,000 cubic feet per second. The highest this gauge has ever recorded is 18,600 cfs, which was during a storm caused by hurricane remnants in September of 1970 and at this level, 35,000 CFS, there are about 50 properties along the river that would be impacted by a flood.

Same, similar situation over at Cave Creek. Seven Springs Campground is here, and the town is down off the screen and the blue area here is Cave Creek Wash, that's a good portion of the upper Cave Creek burn. Here it is again. The response time on this one up about three hours down to the town. Its 100 year discharge is about 13,000 CFS. The max that we've recorded is 9,200 and there's about 100 properties impacted by that 13,000 cubic feet per second discharge.

A little stepchild that nobody sees here is Camp Creek, which is on the southeast side, and this is the Cave Creek, Camp Creek boundary. We're looking at a totally different scale now. These little squares are a mile. There are cabins along Camp Creek at Seven Springs Wash Road in this little watershed, and the Forest Service leases the land to these folks. They called us in June and said is there something that you guys can do because these guys are in big trouble. The whole watershed upstream had been burned and burned pretty badly. So we said yeah, we'll look at it and we'll try and meld it into what we're going to do in New River and Cave Creek. Very quick response time. No known studies were ever done there. The watershed is too small to put a stream gauge in and get a meaningful lead time and there are about 30 home sites here. I shouldn't say 30 home sites because it turned out to be quite a bit less than that when we went up and looked at it. But here's what we did.

Over here at Camp Creek, which is this little piece, we put a rain gauge up here at the top and that also helped to give us information on what's going on sort of

in the Cave Creek area. We put a rain and stream gauge on Cave Creek just below the burn area and another one on New River, below the burn area as far up as we could get it, and still maintain it. So we have these properties that are downstream and what do we do to warn those folks that an impending flood might be coming? What we did was we identified them and using GPS, and then we overlaid and created a CENS group. CENS is an acronym for community emergency notification system, and it's probably better known in other places as reverse 911. But what can happen here is that we can set up a group and the CENS system will identify all of the landline phone numbers of the properties that you tell it, and then you call up and record a message and then send that to a CENS operator who will then send that to your group. So within the space of a couple of minutes, we can notify everybody in here, give them a text message of exactly what's going to happen. And you can record it in English and Spanish as well.

The monsoon started on July 18th of this year. We had some significant events on three days in late July. But in August, we got a really good rain that came through the metro area. Everything on this map in gold or red shows areas that got more than two inches of rain. So, pretty significant, fairly well spread out. Here's some rainfall totals that had a few gauges that I picked up. The Indian Bend Wash flowed pretty good at 5,600 CFS. Cave Creek flowed fairly well. I know Tatum Basin up on Indian Bend Wash at about Shea Boulevard filled up to 75%, which was the first time really since we built it that we got a good in-flow. ).

*Acuna:* That was a two-year basin.

*Waters:* On August 9th we had another good series of thunderstorms come through, real heavy rainfall, more than four inches here in this kind of wilderness area north of Rio Rico. But we're going to concentrate over here on Camp Creek and Cave Creek.

August 9th the cabins are here and they come down here and there is a ranch which is at the end of this little road right here. A real heavy thunderstorm, but very small, these are one kilometer squares, hit up here in something called Rack and Sack Canyon, which is pretty much wilderness, very steep, rocky kind of place. But it rained over two inches in the upper part of this in a very short time. This is one of the Camp Creek cabins. An elderly lady sent me these photos and shows me the mud, how her golf cart got washed away and we'll see this again in September 3rd. That same storm on New River, it rained pretty good amounts up here, an inch and a half to two inches in the upper part of New River. So we have again some rainfall totals. The New River flowed at 6,000 CFS or so. This is the one where the one guy drove into New River with his horse trailer and was tumbled downstream. He died. And also there was a little girl at the K Ranch which was not part of our warning system who was trying to escape the flood waters and she was caught up and perished as well.

On August 11th we had another rainfall event on New River, so this is two days later and you might recall that there was a story that a sheriff was going by the horse trailer that was still out in the wash and the insurance adjusters were out

there and he yelled at them hey, get out of the wash because another flash flood was coming. That was on August 11th.

Around September 3rd probably the most severe rainfall event of the whole monsoon season hit this area on the very upper eastside of Cave Creek Wash. So we had a very intense rainfall event in one little area of the creek, of the watershed and this thing – this is where our gauge was, at least at Seven Springs. This bank used to be right here, it's now moved back about six feet. There's nothing in the wash. Before that it was very overgrown. It generated 7,000 cubic feet per second from eight square miles, which is as high as we ever see and 10,000 or so CFS through the town. Not quite enough to make our CENS notification and there were no structures damaged or injuries reported down in the town. There is this lady's cabin again on Camp Creek. She put up straw bales around her house, but it didn't matter. It just swooped over it and went in her room. She said a big log went through her room and went to the back of the house and almost bashed out the back wall.

Seven Springs Campground which is off Seven Springs Road was pretty much demolished. This campground's been there since 1923 it had the old stone walls and old stone picnic tables and stuff and now they're all just pretty much wiped out. And that's all I have for you.

*Cooper:* Well, a very comprehensive report. I appreciate it.

*Waters:* Thank you. Any questions?

*Chairman:* It was extremely informative.

*Waters:* Thank you.

#### 10) COMMENTS FROM THE CHIEF ENGINEER AND GENERAL MANAGER.

*Phillips:* The flooding in New Orleans and the South has been dramatic. I'm sure Paul probably gets a lot of this is, Could this sort of thing happen in Maricopa County? I've gotten asked by the media on a number of occasions, and most people see the scenario as being a, you know, some sort of failure of Roosevelt Dam, but we try to keep our perspective to that flooding within the Valley, the structures and things that we have and tell people to go talk to Salt River Project about catastrophic failures of the structures. I think we're going to see a lot of knee jerk reactions coming out of FEMA and the CORPS as they start to address and respond to, , those type of flooding events., There's been talk about levee designs that should be for 500 year events, , rather than the 100 year. And it's not proportional, it's incremental. I think we'll start to see some of the fallout from what's happened in the South, and in some respects that may be a good thing because while the CORPS continues to tell us that they don't have funds to participate in our projects, I imagine that what's happened in the South may provide another source of emphasis or urgency that flood control, core flood control type projects are needed and necessary, so we'll take advantage of that where we can. Other than that, Mr. Chairman, I don't have any further comments.

*Martin:* Has the Governor put a committee together about the possibility of Roosevelt Dam failing?

*Phillips:* Mr. Chairman, Mr. Martin, my understanding is her committee is looking at kind of collective emergency response evacuations and those type of items. We haven't been asked to play at that table, I think it's probably more higher level than us, but I'd certainly be willing to participate. Paul, is SRP involved in that at all?

*Cherrington:* Yes, they probably saw on the front page of the paper where she said she was going get the emergency management agencies together and talk about the possibility of catastrophic events here; and two that they're looking at are some kind of a release of radiation from Palo Verde and the failure of Roosevelt Dam. We've had a couple of meetings with them. There was a meeting on the 26th, in the Governor's office although most of the emergency management agencies weren't there. We've had several meetings since her announcement directed towards how well we're communicating with interagency, intra-agency. If something were to happen, who do you call. Is that a good phone number still? Do they know what to do if you call? We have inundation maps for all the dam failures. For example, if we made a phone call and said the dam failed, this scenario, do all the people downstream know what their responsibilities are. We're having lots of activity along those lines.

#### 11) OTHER BUSINESS AND COMMENTS FROM THE PUBLIC

None:

The meeting was adjourned at 4:00